



STUDENT TEACHERS' REFLECTIVE INQUIRY QUEST FOR EXCELLENCE IN TEACHING

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ABSTRACT

Reflective practice is one of the fundamental bases of professional development of teachers. The present study estimated how often student teachers engage in self-dialogue and the level of inquiry urge among them in relation to their teaching experience. This study employed procedures associated with both qualitative and quantitative paradigm. The participants (500 student teachers) in this study were drawn from student teachers at secondary level. The participants were asked to maintain the structured reflective journal developed by the investigators throughout their practice teaching period to document their daily teaching experiences. The content analysis was employed to identify the focus, reflective categories and levels of reflectivity of the reflective journals. In order to find out the student teachers' reactions to the journal writing the investigators prepared and standardised a questionnaire and administered it to the same sample of student teachers and analysed quantitatively. It was found that student teachers have given more emphasis to reflection on the delivering of their teaching than planning and preparation and were engaged in self-dialogue very frequently and also have above average level of inquiry urge to identify the reasons of the success/failures of teaching- learning outcome. They have above average level of positive reactions to the journal writing and science, mathematics and language student teachers were found to have more positive reactions than those of social science student teachers.

KEYWORDS: Reflective practice, structured reflective journal, self-dialogue, inquiry urge, reflective journal writing.

INTRODUCTION:

Teachers are the foremost significant element of any education system. Teachers' professional development is an essential factor for excellence in teaching learning process. Lack of professional training of teachers can be a major reason for low learning outcome. Reflective practice is one of the fundamental bases of professional development where people learn from their own professional experiences, rather than from formal learning. Reflection refers to an activity or process in which an experience is recalled, considered and evaluated. It is a response to past experience and involves conscious examination of the experiences as a basis for evaluation and decision-making and as a source for planning and further action (Thomas & Tessy, 2018). Thus it is a conscious and systematic approach to thinking about experiences with the aim of learning and changing behaviours.

Cruikshank and Applegate (1981) viewed reflective practice as a process that helps teachers think about what happened, why it happened, and what else could have been done to reach their goals. This thinking then enables the increase of their self-awareness and professional competence (Levine, Kern & Wright, 2008). The adoption of reflective practice in the professional development of teachers is based on the belief that teachers can improve their own teaching by consciously and systematically reflecting on their teaching experiences (Farrell, 2004). Huang (2001) suggested that supporting student teachers to gain experience and help them to learn from their own experiences is the best method of teacher education.

Reflective practice involves a metacognitive approach in which student teachers observe their own actions, evaluate them in light of theory, and use that theory to generate and monitor improvements in their own practice. Student teachers need to question their practices and be open to different possibilities in their teaching experiences. This may help them to develop their teaching repertoire.

NEED AND SIGNIFICANCE OF THE STUDY:

The National curriculum Frame Work for Teacher Education (2009) underscores the importance of developing the novice entrant to teaching profession as a reflective teacher with positive attitudes, values and perspective, along with skills for the craft of efficient and effective teaching and learning. Thus the preparation of reflective teachers is an important theme in the teacher education programmes.

Today in India there seem to be growing demands on teachers in quality improvement and excellence. While examining the defects of the present system of teacher education in India National Curriculum Frame Work for Teacher Education (2009) observed that "there is no opportunity for teachers to examine their own biases and beliefs and reflect on their own experience as part of classroom discourse and enquiry" (p.40). As a means for sustained engagement with learners and the school it recommended the need for maintaining Reflective Journals by student teachers for recording "their observations, reflections, including conflicts" (p.52)

Research studies indicated that reflective journals contributed to student teach-

ers' professional development (Sumsion & Fleet, 1996; Davis, 2006). Writing of reflective journals may help student teachers to record criticisms, doubts, frustrations, questions, the joys of teaching and the results of experiments in teaching-learning process.

However student teachers need training to master the art of reflective journal writing. Studies about the quality of student teachers' reflection indicated that they usually engage in "routine and technical" level of reflection (El-Dib, 2007). Davis (2006) stated that student teachers need support and practice in reflective writing or else they write "unproductive reflections", mainly descriptive, without much analysis: "listing ideas rather than connecting them logically". Moreover, some students perceive reflective journal writing as a burden and waste of time. In order to overcome these problems, the reflective writing of student teachers need training to focus deeply and systematically to the various aspects of their day to day teaching learning experiences.

In this context the investigators felt that if a structured journal with necessary instructions and columns for self-reflection regarding different dimensions of teaching-learning process may help the student teachers to deepen their reflection. Therefore the investigators developed a structured reflective journal in view that the systematic critical reflections of daily teaching experiences in the classrooms through its documentation in a structured reflective journal by the student teachers may help them to enhance their professional development. Further, based on these, the teacher educators can provide them with suitable feedback so as to further the reflection.

OBJECTIVES OF THE STUDY:

1. To investigate how often student teachers use journal writing as a means for reflection on their experience and feeling about planning, preparing and delivering of their teaching process during practice teaching.
2. To estimate how often student teachers engage in self dialogue with respect to their teaching experience.
3. To find out the level of inquiry urge among student teachers to identify the reasons of success/failures of their teaching.
4. To find out the student teachers' reactions to reflective journal writing.
5. To compare the student teachers' reactions to reflective journal writing based on their pedagogical courses such as language, mathematics, science, and social sciences.

HYPOTHESIS OF THE STUDY:

There is significant difference in student teachers' reactions to journal writing in relation to their pedagogical courses such as language, mathematics, science, and social sciences.

METHODOLOGY:

This study employed procedures associated with both qualitative and quantitative paradigm. The investigators developed a structured reflective journal, distributed it to student teachers at secondary level during their practice teaching period for reflective writing and analyzed the content to identify their focus, reflective categories and levels of reflectivity.

Population and Sample:

All student teachers at secondary level of Colleges of Teacher Education of Kerala State constituted the target population of the study. The investigators draw a sample of 500 student teachers from the population concerned through purposive sampling.

Tools used in the study:

1. Structured Reflective Journals (Developed by the investigators)
2. Student Teachers Journal Writing Experience Questionnaire (Developed and standardized by the investigators)

Procedure:

The participants (500 student teachers) in this study were drawn from student teachers at secondary level who are enrolled in the institutions of teacher education in Kerala state. The participants were asked to maintain the prepared reflective journal throughout their practice teaching period to document their daily teaching experiences in the classrooms and their experiences in school. In order to find out the student teachers' reactions to the journal writing, to estimate how often student teachers engage in dialogue with oneself regarding their teaching experience and to find out the level of inquiry urge among student teachers to identify the reasons of the success/failures of their teaching, the investigators prepared and standardised a questionnaire having these dimensions. This was administered to the same sample of student teachers after writing the reflective journals.

Data Analysis:

Data collected in the form of written journals were analysed qualitatively through content analysis which includes familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation. The quantitative data collected from 500 student teachers through the administration of the student teachers journal writing experience questionnaire were analysed quantitatively by means of percentage analysis, measures of central tendency, Analysis of Variance and post hoc Scheffe Test.

RESULTS AND DISCUSSION:

It is observed that of the total 500 reflective journals distributed 36 (7.2%) student teachers did not submit their journals. After preliminary analysis it was found that among 464 collected journals after 16 week practice teaching there were 59 (11.8%) student teachers who wrote very few entries which had inadequate information. The remaining journals with ≤ 16 journal entries were selected for content analysis. Hence content analysis was done only for these 405 (81%) reflective journals. From the analysis of frequencies of journal entries in the reflective journal, it can be interpreted that student teachers engage in reflective journal writing very frequently.

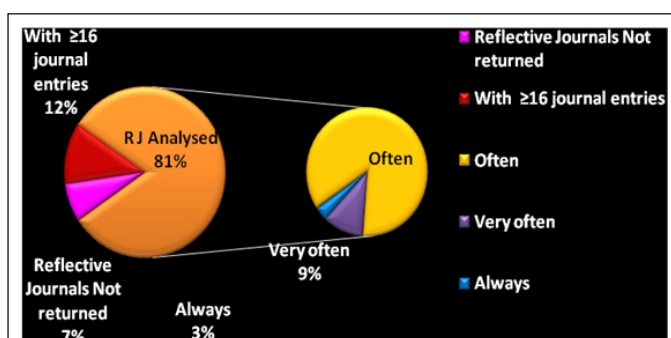


Figure 1: The Extent of Reflection of Pre-service Student Teachers during Practice Teaching

1. The Extent of Student Teachers' Use of Journal Writing for the Purposes of Reflection such as Planning, Preparing and Delivering of Teaching Process.

The content analysis of the reflective journals comprised determining codes to identify the journal entries first; then, pulling them together to form categories. The percentage of student teachers who use journal writing for various purpose of reflection such as planning, preparing and delivering of teaching process during their practice teaching is given in Table 1.

Table 1: Purposes of Reflective Journal Writing of Student Teachers

Purpose of Journal Writing	No. of Student Teachers	Percentage
Reflection on the planning of teaching process	187	46.17%
Reflection on the preparation of teaching process	69	17.03%
Reflection on the delivering of teaching process	405	100%

From Table 1 it is observed that of the total 405 reflective journals analysed, all students used reflective journal writing for the purpose of reflection on delivering of their teaching process, 46.17% used for reflection on planning of teaching process and only 17.03% used reflective journal writing for reflection on preparation process during practice teaching. Hence it can be interpreted that student teachers have given more emphasis to reflection on delivering of their teaching than planning and preparation of teaching process.

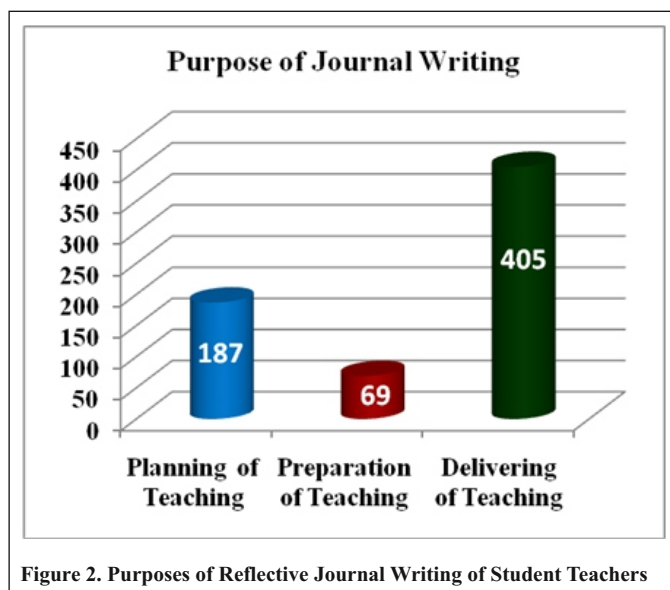


Figure 2: Purposes of Reflective Journal Writing of Student Teachers

2. The Extent of Self-dialogue of Student Teachers with Respect to Teaching Experience

The data collected from 500 student teachers through the administration of reflective journal writing experience questionnaire were analyzed to estimate the extent of self-dialogue of student teachers with respect to their teaching experience.

Table 2: Mean, Standard Deviation and Distribution of the Self-dialogue Scores of Student Teachers

Variable	N	Range		M	SD
		Minimum	Maximum		
Self-dialogue of Student Teachers	500	15	38	26.66	7.003

The minimum and maximum scores possible for the dimension of self-dialogue of student teachers with respect to their teaching experience in the reflective journal writing experience questionnaire are 0 and 40 respectively.

Table 3: The Distribution of Self-dialogue Scores of Student Teachers among Different Categories

Frequency of Self-dialogue	Category	No. of Student Teachers	Percentage
0 – 10	Never	-	-
11- 20	Rarely	133	26.6%
21-25	Sometimes	88	17.6%
26- 35	Most of times	220	44%
36 - 40	Always	59	11.8%
Total		500	100%

Table 3 reveals that 55.8% student teachers engage in dialogue with oneself

regarding their teaching experience very often. Hence from the analysis of self-dialogue scores of student teachers in the reflective journal writing experience questionnaire, it can be interpreted that student teachers engage in dialogue with oneself with respect to their teaching experience very frequently.

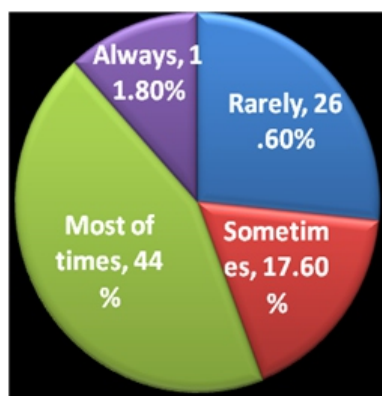


Figure 3: The Distribution of Self-dialogue Scores of Student Teachers among Different Categories

3. The Level of Inquiry Urge among Student Teachers to identify the Reasons of the Success/Failures of Teaching

The data collected through the administration of reflective journal writing experience questionnaire were analyzed to find out the level of inquiry urge among student teachers.

Table 4: Mean, Standard Deviation and Distribution of the Scores of Level of Inquiry Urge among Student Teachers

Variable	N	Range		M	SD
		Minimum	Maximum		
Level of Inquiry Urge	500	13	39	25.94	6.963

The minimum and maximum scores possible for the dimension of the level of inquiry urge among student teachers in the reflective journal writing experience questionnaire are 0 and 40 respectively.

Table 5: The Distribution of the Scores of Level of Inquiry Urge among Student Teachers

Frequency of the Level of Inquiry Urge	Category	No. of Journals	Percentage
0 – 10	Very low	-	-
11- 20	Low	110	22%
21-25	Average	142	28.4%
26- 35	High	195	39%
36 - 40	Very high	53	10.6%
Total		500	100%

From the analysis of the scores of level of inquiry urge among student teachers to find out the reasons of the success/failures of their teaching in the reflective journal writing experience questionnaire, it can be interpreted that 49.6% of student teachers have above average level of inquiry urge.

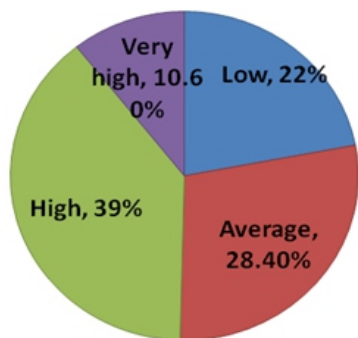


Figure 4: The Level of Inquiry Urge among Student Teachers

4. Analysis of the Student Teachers' Reactions to the Reflective Journal Writing

The data collected from the student teachers through the administration of reflective journal writing experience questionnaire were analyzed to find out the extent of student teachers' reactions to reflective journal writing.

Table 6: Mean, Standard Deviation and Distribution of the Scores of Student Teachers' Reactions to Reflective Journal Writing

Variable	N	Range		M	SD
		Minimum	Maximum		
Student teachers' reactions to reflective journal writing	500	13	31	23.75	5.056

The minimum and maximum scores possible for the dimension of the extent of student teachers' reactions to reflective journal writing based on the questionnaire are 0 and 32 respectively.

Table 7: The Distribution of the Scores of Student Teachers' Reactions to Reflective Journal Writing

Frequency of student teachers' positive reactions	Category	No. of Journals	Percentage
0 – 10	Very low	-	-
11- 20	Low	98	19.6%
21-25	Average	130	26%
26- 35	High	207	41.4%
36 - 40	Very high	65	13%
Total		500	100%

From the analysis of the scores of student teachers' reactions to reflective journal writing, it can be interpreted that 54.4% of student teachers have above average level of positive reactions to reflective journal writing.

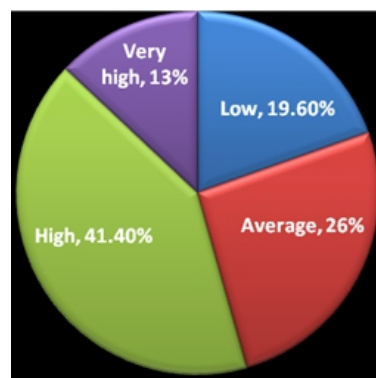


Figure 5: The Distribution of the Scores of Student Teachers' Reactions to Reflective Journal Writing

5. Comparison of the Student Teachers' Reactions to Reflective Journal Writing based on their Pedagogic Courses such as Language, Mathematics, Science, and Social Sciences

The data collected from the student teachers through the administration of journal writing experience questionnaire were analysed and the mean scores based on their pedagogic courses such as language, mathematics, science, and social sciences were compared.

Table 8: The Number, Mean and Standard Deviation of Scores of Student Teachers' Reactions to the Journal Writing Experience based on Pedagogic Courses

Main Subjects	n	Range		M	SD
		Minimum	Maximum		
Language	118	19	29	24.73	3.831
Mathematics	106	19	31	25.22	3.392
Science	166	13	31	25.66	4.743
Social science	110	13	30	18.42	4.329

From Table 8, it is observed that the mean scores of science student teachers' positive reactions to reflective journal writing ($M=25.66$), is higher than Mathematics

ics ($M = 25.22$) language ($M = 24.73$) and social science ($M = 18.42$) student teachers. The minimum and maximum scores possible student teachers' reactions to reflective journal writing experience questionnaire are zero and 32 respectively.

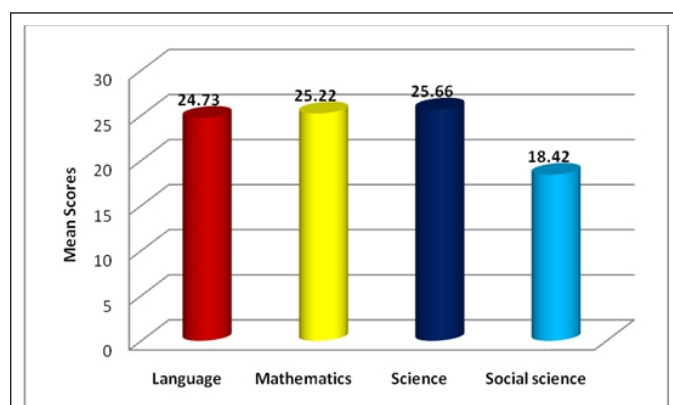


Figure 6. Comparison of the Student Teachers' Reactions to the Journal Writing Experience based on their pedagogic courses such as Language, Mathematics, Science, and Social Sciences

In order to determine whether there is any significant difference in the mean scores of student teachers' reactions to reflective journal writing based on their pedagogic courses such as language, mathematics, science, and social sciences, analysis of variance (ANOVA) was employed. The results are given in Table 9.

Table 9: Summary of One-way Analysis of Variance (ANOVA) of Mean Scores of Student Teachers' Reactions to Reflective Journal Writing based on Pedagogic Courses

	Sum of Squares	df	Mean Square	F value	Significance level
Between Groups	4075.538	3	1358.513	77.636	P<0.01
Within Groups	8679.204	496	17.498		
Total	12754.742	499			

From Table 9 it is evident that the F value is 77.636 (greater than the theoretical value 3.78 at 0.01 level of significance) which is significant at 0.01 level with df 3/496. This indicated that the mean scores of student teachers' positive reactions to reflective journal writing based on their pedagogic courses differ significantly. Thus the null hypothesis 'There is no significant difference in the mean scores of student teachers' reactions to reflective journal writing based on their pedagogic courses is rejected. Hence from the analysis of scores of student teachers' reactions to journal writing experience questionnaire it can be interpreted that the language, mathematics, science, and social sciences student teachers' reactions to reflective journal writing differ significantly. Further in order to know which group's mean scores differ significantly from others, the data were further analysed by using the post hoc Scheffé Test and the results are given in Table 10.

Table 10: Summary of the Post hoc Scheffé Test Analysis of the Mean Scores of Student Teachers' Reactions to Reflective Journal Writing based on Main Subjects, Taken Separately

Subject (I)	Subject(J)	Mean Difference (I-J)	Sig.
Social science	Language	-6.311*	.000
	Mathematics	-6.799*	.000
	Science	-7.244*	.000

** The mean difference is significant at the .01 level.

From Table 10 it can be seen that the mean scores of positive reactions to reflective journal writing of science, mathematics and language student teachers are 25.66, 25.22, 24.73 respectively and all these are significantly higher than that of social science student teachers whose mean score is 18.42. Hence it can be interpreted that science, mathematics and language student teachers were found to have more positive reactions to reflective journal writing than those of social science student teachers.

DISCUSSION:

Through reflective practices especially by means of self dialogue with respect to teaching experience and inquiry urge to identify the reasons of the success/failures of teaching student teachers seem to be more informed decision makers. Observing the acts of their own and others' teaching and evaluating the impact of their teaching on their students' learning may help them to harness their reflective ability.

The results of the present study are also in agreement with various researches. Davis (2006) indicated that reflective journals contributed to the student teachers professional development. Reflective teachers seek to discover the source of an issue or problem rather than simply be satisfied with a temporary solution (Thorsen & DeVore, 2013). Dewey (1933) believed that through the process of reflection teachers are freed from the burden of impulsive or routine behaviour. Purposeful reflection enables practitioners to be proactive rather than reactive when organizing learning environments. Teachers who are not skilled in reflective thinking may respond to academic and social issues automatically without attempting to discover any more appropriate possibilities or connections to other issues (Dewey, 1933).

MAJOR FINDINGS OF THE STUDY:

Student teachers at secondary level maintained the structured reflective journal developed by the investigators throughout their practice teaching period and documented their daily teaching experiences in the classrooms and their experiences in the practice teaching schools. It was found that student teachers engaged in reflective journal writing very frequently.

Student teachers used journal writing for the purpose of reflection on their experience of, and feeling about planning, preparing and delivering of their teaching process during practice teaching. They have given more emphasis to reflection on the delivering of teaching process than planning and preparation of teaching process.

Student teachers engaged in dialogue with oneself with respect to their teaching experience very frequently and they have above average level of inquiry urge to identify the reasons of the success/failures of their teaching.

Results also showed that student teachers have above average level of positive reactions to reflective journal writing. They reported that reflective journal writing has helped them in various ways such as to describe their teaching practice in a thoughtful way, to articulate different events in the class, to identify the problems in the class, to keep the attitudes of open-mindedness, responsibility and whole heartedness in teaching profession, to organize the lesson plan taking into account the principles of individual differences.

The language, mathematics, science, and social sciences student teachers' reactions to the journal writing experience differ significantly. Science, mathematics and language student teachers were found to have more positive reactions to the journal writing experience than those of social science student teachers.

EDUCATIONAL IMPLICATIONS:

Reflective writing should be viewed as a personal effort for self-improvement in the profession. It should be under taken with full willingness and freedom. The initial training in reflective writing during the period of practice teaching may enable the student teachers to continue their practice throughout their teaching career. The mentor teacher has to play a vital role in order to facilitate the student teacher to write reflective journals. This may equip them to cope with the daily issues that arise from their future teaching with a creative and critical stance.

CONCLUSION:

The student teacher's exercise of writing reflectively in the structured journal may provide them an opportunity to learn from their experience. Many of the student teachers who wrote in the structured reflective journals became aware of their strength, limitations and inadequacies and came out with the ways and means of overcoming these limitations in relation to planning, preparation, and delivering aspects of the teaching and learning process. The reflective student teachers can bridge the gap between theory and practice.

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